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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/180,601 11/10/98 OSHITA T 1213/GEB667

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IM22/1129

EXAMINER

DOROSHENK, A

ART UNIT

PAPER NUMBER

1764

DATE MAILED:

11/29/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

# Office Action Summary

Application No.  
09/180,601

Applicant(s)

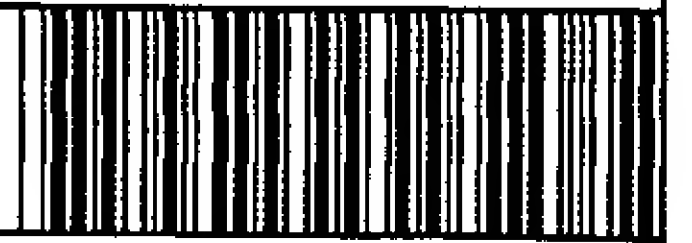
Oshita et al

Examiner

Al xa Dorosh nk

Group Art Unit

1764



☒ Responsive to communication(s) filed on Sep 25, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

- ☒ Claim(s) 11-24 is/are pending in the applicat
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 11-24 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- ☐ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "said combustibles" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

The term "intensely" in claims 12, 16, 22, and 23 is a relative term which renders the claim indefinite. The term "intensely" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In claim 12, line 13 of the claim, it is unclear as to if "flowing fluidized medium" is lacking antecedent basis to a previously recited fluidized medium or is a newly recited fluidized medium.

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In claim 12, line 14 of the claim, it is unclear as to if “flowing fluidized medium” is lacking antecedent basis to a previously recited fluidized medium or is a newly recited fluidized medium.

Claim 20 recites the limitation "said combustibles" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "said combustibles" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

In claim 22, line 13 of the claim, it is unclear as to if “flowing fluidized medium” is lacking antecedent basis to a previously recited fluidized medium or is a newly recited fluidized medium.

Claim 24 recites the limitation "said combustibles" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirayama et al (5,620,488) in view of Japanese document 5-23321.

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With respect to claim 11, Hirayama et al disclose a method for gasifying combustibles with a heat recovery region (118) and a combustible region (G) and (S) in a fluidized-bed furnace (1) with a freeboard (102) and temperature control (col. 10, lines 37-46) but are silent as to controlling the freeboard temperature.

Japanese document 5-23321 demonstrates wherein temperature detector (91) and controller (92) control the temperature throughout the system, including the freeboard. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the temperature detector and controllers of 5-23321 in the system of Hirayama et al since temperature control has been shown as an effect operating means in combustible gasification.

With respect to claims 20 and 24, Hirayama et al disclose a method for gasifying combustibles with a fluidized-bed furnace (1) with a freeboard (102) with temperature control (col. 10, lines 37-46) wherein combustible gas and fine particles generated are delivered from the freeboard (102) to a melt combustion furnace (col. 5, lines 53-55 and col. 6, lines 49-52) but are silent as to controlling the freeboard temperature.

Japanese document 5-23321 demonstrates wherein temperature detector (91) and controller (92) control the temperature throughout the system, including the freeboard. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the temperature detector and controllers of 5-23321 in the system of Hirayama et al since temperature control has been shown as an effect operating means in combustible gasification.

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5. Claims 12-19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirayama et al in view of Japanese document 5-23321 as applied to claim 1 above, and further in view of Japanese document 7-56362.

With respect to claims 12, 16, and 23, the modified method of Hirayama et al disclose all of the method as described in claim 1 above, including a first and second fluidizing gas (7) and (8) are supplied as an upward flow through the furnace so that a moving bed (9) descends and the combustibles are gasified (G) while circulating together (see fig. 1 and 3). Modified Hirayama et al also disclose wherein the furnace is circular in cross-section with the heat recovery region on the periphery and the combustion region in the center (col. 5, line 62- col. 6, line 18) but are silent as to a partition wall.

Japanese document 7-56362 discloses wherein a partition wall (58) is included to separate a heat recovery region and combustion region of a furnace wherein the upper and lower portions of the regions are connected (see fig. 5 and col. 15, line 33- col. 16, line 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of 7-56362 in the modified system of Hirayama et al in order to add flow control means to further promote the necessary flow of materials in the apparatus.

With respect to claims 13 and 17, Hirayama et al disclose wherein the temperature of the furnace is regulated (col. 10, lines 43-46).

With respect to claims 14, 15, 18, and 19, Hirayama et al disclose wherein temperature is controlled in the moving bed through the combustion and heat recovery regions (col. 10, lines



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36-46). With respect to the limitations of "main temperature control" and "auxiliary temperature control" of the instant claims, the mere fact that a given structure is integral does not preclude its consisting of various elements since the same operation would be achieved.

Also with respect to claims 14, 15, 18, and 19, Japanese document 5-23321 further demonstrates the effectiveness of controlling the temperature throughout the apparatus through several separate tubing means (see fig. 15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to separate the temperature control means in the modified method of Hirayama et al in order to provide additional operational control means.

With respect to claims 21 and 22, Hirayama et al disclose a gasifying furnace comprising: a fluidized bed furnace (1) an air diffusion device (7) and (8) at the bottom of the furnace, heat recovery region (118), combustion region (G) and (S), and a moving bed (9). Hirayama et al are silent as to a partition wall and a heat transfer surface.

Japanese document 7-56362 discloses the use of a partition wall (58) in a furnace which allows the upper and lower portions of the regions to be connected. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the partition wall of 7-56362 in the apparatus of Hirayama et al in order to ensure the necessary flow direction of the materials during operation of the device.

Hirayama et al disclose that temperature control of the regions of the apparatus is necessary (col. 10, lines 36-46) but does not disclose a means of doing achieving this function. Japanese document 5-23321 discloses a heat transfer surfaces (80) and (91) through the heat

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recovery region of a gasification surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a heat transfer surface as taught by 5-23321 in the apparatus of Hirayama et al since it is merely a selection of temperature control means known to be effective in the art.

### *Response to Arguments*

6. Applicant's arguments filed September 25, 2000 have been fully considered but they are not persuasive.

Applicant has argued that Hirayama does not disclose controlling the rate of recovery of an operation of recovering heat in a heat recovery region.

The Examiner respectfully disagrees with Applicant. In lines 26-28, page 16 of Applicant's specification states that the heat recovery rate control is accomplished by controlling fluidized medium circulation and heat transfer coefficient. Hirayama et al discloses controlling fluidized medium circulation by the mechanism (106) and heat transfer (col. 10, lines 43-46).

### *Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Alexa Doroshenk, whose telephone number is (703) 305-0074. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

AAD

AAD

November 28, 2000

  
**Shrive Beck**  
**Supervisory Patent Examiner**  
**Technology Center 1700**